AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all previous claims, and listings of claims, in the application:

1. **(Currently Amended)** A geographic and space positioning system comprising:

a first, a second, and a third base which are fixed in relation to the earth, spaced away and each having a different alignment in relation to each other and each having a previously known location;

a space platform, simultaneously visible from the three fixed bases and which moves to successive positions, as a function of time, according to a space platform trajectory that is inclined in relation to the rotation axis of the earth;

a transmitter, installed in at least one of the fixed bases in order to emit pulses in a determined frequency, each pulse in a predetermined reference instant;

a receiver for each of the fixed bases, each receiver being installed in one of the fixed bases in order to receive said pulses in a signal trajectory covering the distance between the space platform and the fixed base associated with the receiver; ~~and~~

a precision clock in each of the fixed bases, the precision clocks being synchronized with each other; and

a control unit operatively connected to both the transmitter and each receiver, in order to calculate, for each pulse emission instant, the lateral edges of a tetrahedron, whose vertices are defined by the three fixed bases and by the space platform, based upon the determination of the propagation time of each pulse, in said signal trajectory, between the space platform and each fixed base in order to allow determining a respective extension of the space platform trajectory ~~of the space platform~~, while the latter is visible by the fixed bases, the tetrahedron edges being

obtained with the time differences between the instant of the emission of each pulse and the instant of the arrival at each fixed bases.

2. **(Previously Presented)** The system according to claim 1, wherein the transmitter is installed in the first fixed base in order to emit pulses in a determined frequency, each pulse in a predetermined reference instant and containing identification of said first fixed base and of the emission instant of said pulse, each pulse being transmitted to all fixed bases through a communication device provided in the space platform.

3. **(Currently Amended)** The system according to claim 1, further comprising:

another transmitter installed in the second fixed base in order to emit pulses in a determined frequency, each pulse in the same predetermined reference instant of each pulse emitted by the transmitter provided in the first fixed base and containing identification of the second fixed base and of the emission instant of said pulse; and

another receiver provided in the third fixed base in order to receive and identify the pulses sent by the second fixed base and transmitted by the space platform, the control unit calculating, for each pulse emission instant of the first and second fixed bases the lateral edges of a tetrahedron with three vertices defined by the three fixed bases and with the fourth vertex defined by the space platform, based on the time differences between the emission instant of a pulse from the first fixed base and its reception in the latter, in the second and in the third fixed base, respectively, and on the time difference between the emission of the pulse from the second fixed base, in order to allow determining the respective extension of the space platform trajectory ~~of the space platform~~, while it is visible by the fixed bases.

4. **(Previously Presented)** The system according to claim 1, wherein the control unit is operatively connected to the second and to the third fixed bases through other respective communication means provided in each one of said fixed bases.

5. **(Previously Presented)** The system according to claim 1, wherein the control unit is operatively connected to the fixed bases.

6. **(Previously Presented)** The system according to claim 5, wherein each of the first, the second and the third fixed bases is provided with a respective control unit, said control units defining the other communication devices and being operatively connected to another control unit remote in relation to those of said fixed bases.

7. **(Previously Presented)** The system according to claim 2, wherein the communication device is a transceiver.

8. **(Cancelled)**

9. **(Previously Presented)** The system according to claim 1, further comprising a target, whose geographic position is to be determined and in relation to which the space platform is visible wherein the target comprises:

a receiver, receiving the pulses emitted by the transmitter and retransmitted through the space platform and being operatively connected to the control unit, which calculates a straight

line segment connecting, to the target, a fourth vertex of a tetrahedron, in order to allow determining the position of said target through the successive intersection of multiple spherical loci, each locus being represented by a sphere and with at least three of said spheres presenting the center in the space platform and the radius corresponding to the straight line segment defined between said space platform and the target, in a determined instant, with the number of intersections of the spherical loci being those sufficient to determine a single point representative of the position of the target.

10. (Previously Presented) The system according to claim 9, wherein the spherical loci are sufficient to define a circle in the first intersection, two points of this circle in the second intersection and only one point in the space in the third intersection.

11. (Previously Presented) The system according to claim 10, wherein at least one spherical locus presents the center coinciding with the center of the earth.

12. (Previously Presented) The system according to claim 11, wherein the control unit calculates, for each consecutive pulse of the first fixed base, a respective spherical locus and its circular intersection on the earth's surface, said control unit calculating, for each three consecutive pulses, the respective circular intersection on the earth's surface, said circular intersections mutually intercepting so as to define a single geometric position of the target on the earth's surface.

13. (Previously Presented) The system according to claim 12, wherein for each respective spherical locus and its circular intersection on the earth's surface, the control unit

utilizes, for each consecutive pulse of the first fixed base, a respective consecutive pulse of the second fixed base.

14. (Previously Presented) The system according to claim 1, wherein the fixed bases are situated on the earth's surface.

15. (Previously Presented) The system according to claim 1, wherein the control unit calculates, based on the time differences of propagation of each pulse between the space platform and a corresponding fixed base, for consecutive pulses, the equation of motion of the space platform.

16. (Previously Presented) The system according to claim 1, wherein the control unit calculates, for consecutive pulses transmitted by the first fixed base, the equation of motion of the space platform.

17. (Previously Presented) The system according to claim 3, wherein the control unit calculates, for consecutive pulses transmitted by the second fixed base, the equation of motion of the space platform.

18. (Previously Presented) The system according to claim 16, wherein the control unit calculates the position of at least one target from the equation of motion of the space platform.

19. (Previously Presented) The system according to claim 18, wherein the target further comprises a control unit which calculates the position of said target from the equation of motion of the space platform.

20. (Previously Presented) The system according to claim 19, wherein the target further comprises a precision clock.

21. (Previously Presented) The system according to claim 2, wherein the communication device utilizes radio-waves.

22. (Currently Amended) A geographic and space positioning process, comprising the steps of:

providing a first, a second, and a third base, which are fixed in relation to the earth and which are spaced away and each having a different alignment in relation to each other, each having a previously known location;

providing a space platform visible by the fixed bases and which moves to successive positions, as a function of time, according to a space platform trajectory that is inclined in relation to the rotation axis of the earth;

providing a transmitter in order to emit pulses in a determined frequency, each pulse in a predetermined reference instant;

providing a receiver in order to receive said pulses in a signal trajectory covering the distance between the space platform and the fixed base associated with the receiver; ~~and~~

providing a precision clock in each of the fixed bases, the precision clocks being synchronized with each other; and

providing a control unit which is operatively connected to both the transmitter and the receiver in order to calculate, for each pulse emission instant, each lateral edges of a tetrahedron, with three vertices defined by the three fixed bases and with a fourth vertex defined by the space platform, based on the time differences of propagation of each pulse between the space platform and a corresponding fixed base, in order to allow determining a respective extension of the space platform trajectory ~~of the space platform~~, while the latter is visible by the fixed bases.

23. (Previously Presented) The process according to claim 22, wherein a transmitter in the first fixed base emits pulses in a determined frequency, each pulse in a predetermined reference instant and containing identification of said fixed base and of the instant of emission of said pulse, each pulse being transmitted to all fixed bases through a communication device provided in the space platform, said process including the additional steps of:

transmitting, through the first fixed base pulses, each containing a coded information of the reference emission instant of each said pulse and of the identification of said first fixed base;

receiving and transmitting, through a communication device provided in the space platform, said pulses transmitted by the first fixed base;

receiving, in the first, in the second and in the third fixed bases, the pulse emitted by the first fixed base and transmitted by the communication device;

calculating the time differences of each pulse received in the first, in the second and in the third fixed bases in relation to the emission time of each said pulse emitted by the first fixed base;

comparing said time differences and informing them to the control unit through a second data communication device; and

determining, in the control unit, for each pulse emission instant of the first fixed base, said lateral edges of a tetrahedron, with three vertices defined by the three fixed bases and a fourth vertex defined by the space platform, based on the time differences between the emission instant of a pulse of the first fixed base and its reception in the first, in the second and in the third fixed bases, respectively.

24. (Currently Amended) The process according to claim 23, further comprising the steps of:

~~providing a precision clock installed in each of the first, the second and the third fixed bases, said precision clocks being synchronized with each other;~~

providing another transmitter installed in the second fixed base in order to emit pulses in a determined frequency, each pulse in the same predetermined reference instant of a pulse emitted by the transmitter and containing identification of the second fixed base and of the emission instant of said pulse;

synchronizing the times of the precision clocks in the three fixed bases to the same common time reference;

transmitting pulses, through the first fixed base, each pulse containing a coded information about the reference emission instant of each said pulse and about the identification of said first fixed base;

transmitting pulses, through the second fixed base, each pulse containing a coded information about the reference emission instant of each said pulse in the emission instant of each pulse from the first fixed base and about the identification of said second fixed base;

receiving and transmitting through a communication device provided in the space platform, said pulses transmitted by the first and the second fixed bases;

receiving, in the second and in the third fixed bases, the pulse emitted by the first fixed base and transmitted by the communication device;

receiving, in the third fixed base, the pulse emitted by the second fixed base and transmitted by the communication device;

calculating the time differences of each pulse received in the third fixed base in relation to the emission time of each said pulse emitted by the second fixed base;

comparing said time differences and informing them to the control unit, through a second data communication device; and

determining in the control unit, for each pulse emission instant of the first and the second fixed bases, the lateral edges of a tetrahedron with three vertices defined by the three fixed bases and the fourth vertex defined by the space platform, based on the time differences between the emission instant of a pulse from the first fixed base and its reception in the second and in the third fixed bases, respectively, and on the time difference between the emission of the pulse of the second fixed base and its reception in the third fixed base, in order to allow determining a respective extension of the space platform trajectory ~~of the space platform~~, while the latter is visible by the fixed bases.

25. (Currently Amended) The process according to claim 23, further comprising the additional steps of:

providing, in a target, a receiver operatively associated with the transmitter in order to receive said pulses in a signal trajectory covering the distance between the space platform and said target, as well as with the control unit, said control unit calculating a straight line segment which connects the target to the space platform, in order to allow determining the position of said target through the successive intersections of multiple spherical loci, each locus being represented by a sphere, with at least three of said spheres presenting the center in the space platform and the radius corresponding to the straight line segment defined between said space platform and the target in a determined instant, and the number of intersections of the spherical loci being those sufficient to determine a single point representative of the position of the target.

26. (Previously Presented) The process according to claim 25, further including the additional steps of calculating, through the control unit:

the intersection of each two successive spherical loci, in order to define a first circular intersection in this intersection;

the intersection of a third spherical locus with the first circular intersection, in order to define a second circular intersection;

the intersection of the second circular intersection with the first circular intersection, in order to define two localization points; and

the intersection of a fourth spherical locus with the second circular intersection, in order to define a third circular intersection intercepting one of the two localization points.

27. **(Previously Presented)** The process according to claim 26, wherein one of the spherical loci has the center coinciding with the center of the earth and the other spherical loci have the center in the space platform.

28. **(Previously Presented)** The process according to claim 23, further comprising a step of calculating, in the control unit, for consecutive pulses transmitted by the first fixed base, the equation of motion of the space platform.

29. **(Previously Presented)** The process according to claim 24, further comprising a step of calculating, in the control unit, for consecutive pulses transmitted by the first fixed base and by the second fixed base, the equation of motion of the space platform.

30. **(Previously Presented)** The process according to claim 28 further comprising a step of calculating, in the control unit, the position of each target based on the equation of motion of the space platform.

31. **(Previously Presented)** The process according to claim 30 further comprising a step of providing, in each target, a control unit calculating the position of said target based on the equation of motion of the space platform.

32. **(Previously Presented)** The process according to claim 25 further comprising a step of providing a precision clock in each target.

33. (Previously Presented) The process according to claim 22 further comprising the step of correcting the time delays in the transmission of pulses through the communication device.